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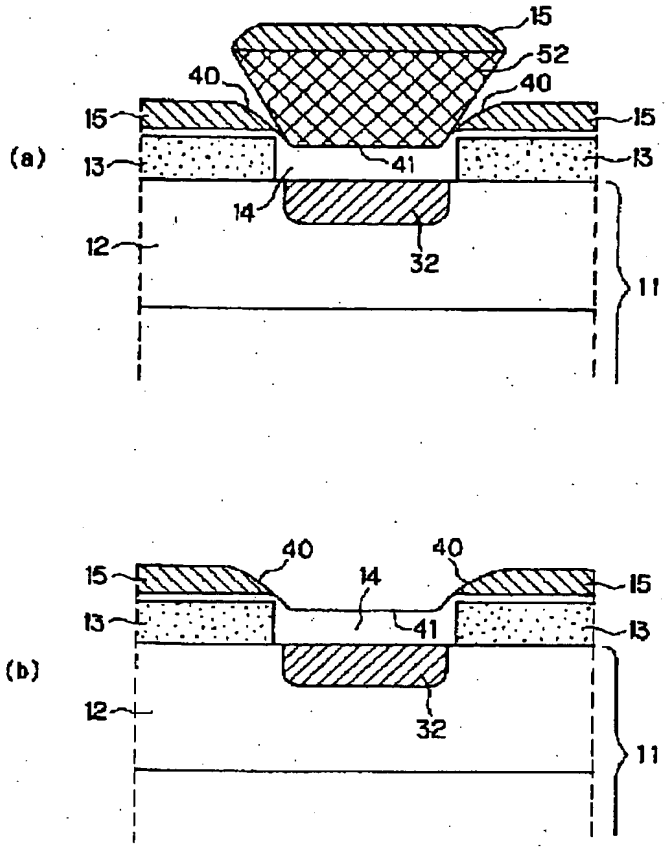
TITLE : METHOD FOR FORMING SLOPE TO INTEGRATED CIRCUIT



ABSTRACT : PROBLEM TO BE SOLVED: To form slopes to an integrated circuit such as an optical integrated circuit excellent in light propagation characteristics and capable of reducing cost as slopes having a small angle of inclination for guiding light propagated by the waveguide layer of an optical waveguide device to a light receiving part with a small loss.

SOLUTION: A 2nd light receiving part 32 for detecting a focus error is formed in the upper epitaxial layer 12 of a semiconductor substrate 11, an aluminum light shielding film 13 is formed on the epitaxial layer 12 so as to allow light to reach only the 2nd light receiving part 32 and the light shielding film 13 is made level by filling a 1st SOG(spin-on-glass) layer 14. A resist for lift-off is applied on the light shielding film 13, the applied resist is removed except the region on the 2nd light receiving part 32 and an inversely tapered mask part 52 is formed by heating. An SiO2 film 15 is formed by sputtering through the mask part 52 and the mask part 52 is removed by lift-off. The objective gentle slopes 40 are formed on the 2nd light receiving part 32 on both sides of a flat part 41. When an optical waveguide is laminated on the slopes 40, propagation loss can be minimized because of the small angle of slope.